

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - NSPS SOURCE

PERMITTEE

Curran Contracting Company  
Attn: Mr. John Simon  
7502 South Main Street  
Crystal Lake, Illinois 60014

Application No.: 04060078

I.D. No.: 097801AAD

Applicant's Designation:

Date Received: June 24, 2004

Subject: Grayslake Hot Mix Asphalt Plant

Date Issued:

Expiration Date:

Location: 32223 North Highway 83, Grayslake, Lake County

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of a drum mix asphalt plant controlled by a cyclone and baghouse pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons/year of Nitrogen Oxides (NO<sub>x</sub>), 100 tons/year of Carbon Monoxide (CO), 100 tons/year of Sulfur Dioxide (SO<sub>2</sub>), and 25 tons/year of Volatile Organic Material (VOM)). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
- 2a. This asphalt plant is subject to New Source Performance Standards (NSPS), 40 CFR 60, Subparts A and I. The Illinois EPA is administering these standards in Illinois on behalf of the United States EPA under a delegation agreement.
- b. The emissions from the asphalt plant shall not contain particulate matter in excess of 0.04 gr/dscf and shall not exhibit 20% opacity or greater, pursuant to the NSPS, 40 CFR 60.92.
- c. At all times the Permittee shall also maintain and operate the asphalt plant, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to the NSPS, 40 CFR 60.11(d).

- 3a. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 Ill. Adm. Code 212.122, pursuant to 35 Ill. Adm. Code 212.123(a), except as allowed by 35 Ill. Adm. Code 212.123(b) and 212.124.
- b. No person shall cause or allow any visible emissions of fugitive particulate matter from any process, including any material handling or storage activity beyond the property line of the source except when the wind speed is in excess of 25 miles per hour, pursuant to 35 Ill. Adm. Code 212.301 and 212.314.
- c. Asphalt tank heaters associated with the asphalt plant which combust liquid fuels are subject to 35 Ill. Adm. Code 212.206, which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period to exceed 0.15 kg of particulate matter per MW-hr of actual heat input from any fuel combustion emission unit using liquid fuel exclusively (0.10 lbs/mmBtu).
- 4a. Asphalt tank heaters associated with the asphalt plant which combust liquid fuels are subject to 35 Ill. Adm. Code 214.122(b)(2), which provides that:

No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion source with actual heat input smaller than, or equal to, 73.2 MW (250 mmBtu/hr), burning liquid fuel exclusively to exceed 0.46 kg of sulfur dioxide per MW-hr of actual heat input when distillate fuel oil is burned (0.3 lbs/mmBtu)
- b. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm, pursuant to 35 Ill. Adm. Code 214.301.
- c. Pursuant to 35 Ill. Adm. Code 214.304, the emissions from the burning of fuel at process emission units located in the Chicago major metropolitan areas shall comply with Condition 4(a) (see also applicable 35 Ill. Adm. Code Part 214 Subparts B through F).
- 5. Use of Organic Material. Pursuant to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 8.0 lbs/hour of organic material into the atmosphere from any emission unit, except if no odor nuisance exists this limitation shall only apply to photochemically reactive material as defined in 35 Ill. Adm. Code 211.4690.

- 6a. The cyclone and baghouse shall be in operation at all times when the associated drum mixer/drum dryer is in operation and emitting air contaminants.
- b. The Permittee shall follow good operating practices for the cyclone and baghouse, including periodic inspection, routine maintenance and prompt repair of defects.
- 7a. At the above location, the Permittee shall not keep, store, or utilize in the asphalt plant:
  - i. Distillate fuel oil (Grade No. 1 and 2) with a sulfur content greater than the larger of the following two values:
    - A. 0.28 weight percent, or
    - B. The wt. percent given by the formula: Maximum wt. percent sulfur =  $(0.000015) \times (\text{Gross heating value of oil, Btu/lb})$ .
  - b. This permit is issued based on the combustion of waste oil in the drum mixer/drum dryer. The use of waste oil is not allowed to fire the asphalt tank heaters, boilers, or any unit that meets the definition of a fuel combustion emission unit pursuant to 35 Ill. Adm. Code 211.2470.
  - c. The Illinois EPA shall be allowed to sample all fuels stored at the above location.
- 8. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the nuisance.
- 9a. Operation and emissions of the drum mix asphalt plant shall not exceed the following limits:
  - i. Asphalt Production Limits:

Asphalt Concrete Production	
<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
75,000	750,000

- ii. Emissions from Drum Mixer/Dryer:

<u>Pollutant</u>	Emission Factor	Emissions	
	<u>(Lb/Ton)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>
Carbon Monoxide (CO)	0.13	4.9	49.2
Nitrogen Oxides (NO <sub>x</sub> )	0.055	2.1	20.8
Particulate Matter (PM)	0.033	1.3	12.5
Particulate Matter less than 10 Microns (PM <sub>10</sub> )	0.023	0.9	8.7
Sulfur Dioxide (SO <sub>2</sub> )	0.058	2.2	21.9
Volatile Organic Material (VOM)	0.032	1.2	12.1

iii. Emissions from Asphalt Silos Loading and Truck Loadout:

<u>Pollutant</u>	<u>Emission Factor (lb/Ton)</u>	<u>Emissions (lb/Mo)</u>	<u>(Tons/Yr)</u>
CO	0.0007	52.5	0.26
PM	0.0007	52.5	0.26
PM <sub>10</sub>	0.0007	52.5	0.26
VOM	0.0048	360.0	0.18

- iv. These limits are based on the maximum asphalt production and standard AP-42 emission factors. Compliance with annual limits shall be determined from a running total of 12 months of data.
- b. This permit is issued based on negligible emissions of VOM from the liquid asphalt storage tanks. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.
- c. This permit is issued based on actual emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act being less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs, or such lesser quantity as USEPA may establish by rule which would require the Permittee to obtain a Clean Air Act Permit Program (CAAPP) permit from the Illinois EPA.
- 10a. Pursuant to 35 Ill. Adm. Code 212.107, 212.109, and 212.110, testing for particulate matter emissions shall be performed as follows:
- i. For both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR part 60, Appendix A, incorporated by reference in 35 Ill. Adm. Code 212.113, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. This Condition shall not apply to 35 Ill. Adm. Code 212.301 pursuant to 35 Ill. Adm. Code 212.107.
- ii. Except as otherwise provided in 35 Ill. Adm. Code Part 212, and except for the methods of data reduction when applied to 35 Ill. Adm. Code 212.122 and 212.123, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and the procedures in 40 CFR 60.675(c) and (d), if applicable, incorporated by reference in 35 Ill. Adm. Code 212.113, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged pursuant to 35 Ill. Adm. Code 212.109.

- iii. Measurement of particulate matter emissions from stationary emission units subject to 35 Ill. Adm. Code Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E pursuant to 35 Ill. Adm. Code 212.110(a).
  - iv. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4 pursuant to 35 Ill. Adm. Code 212.110(b).
  - v. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA pursuant to 35 Ill. Adm. Code 212.110(c).
- b. Testing required by Conditions 10(a) shall be performed by a qualified independent testing service.
- 11a. The Permittee shall maintain records of the following items for the drum-mix asphalt plant to demonstrate compliance with the conditions of this permit:
- i. The Permittee shall retain all applicable records for the drum-mix asphalt plant as specified by 40 CFR 60.7 and 60.676.
  - ii. The owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed pursuant to 35 Ill. Adm. Code 212.110(e).
  - iii. The Permittee shall maintain an operating and maintenance log for the cyclone and baghouse control system, including:
    - A. Incidents of malfunction, with date, duration, description, probable cause, and corrective actions, pursuant to 40 CFR 60.7(b);
    - B. Operating logs for the cyclone and baghouse associated drum mixer/drum dryer, including operating data (pressure drop or stack condition), daily upon startup;
    - C. Records for periodic inspection of the cyclone and baghouse associated drum mixer/drum dryer with date, individual performing the inspection, and nature of inspection; and

- D. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
  - iv. Pursuant to 35 Ill. Adm. Code 218.129(f), each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 Ill. Adm. Code Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel;
  - v. Asphalt concrete production (tons/day, tons/month and tons/year).
  - vi. Asphalt dryer fuel type, and consumption (gallons/month and gallons/year or mmscf/month and mmscf/year).
  - vii. Asphalt tank heater natural gas or #2 oil consumption (gallons/month or gallons/year or mmscf/month and mmscf/year).
  - viii. Fuel oil sulfur and ash content (weight percent) and heating value for each oil type), this shall be recorded for each shipment of oil delivered to the source.
  - ix. Annual CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOM emissions from the asphalt plant shall be maintained, based on asphalt production, fuel consumption, and storage tank throughput and the applicable emission factors, with supporting calculations.
  - b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
- 12a. A person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used pursuant to 35 IAC 212.110(d).
- b. The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the asphalt plant with the permit requirements as follows. Reports shall describe the probable cause of such deviations, and a description any corrective actions or preventive measures taken:

- i. Emissions of CO, NO<sub>x</sub>, PM, SO<sub>2</sub> and/or VOM, in excess of the limit specified in Condition 9 within 30 days of a record showing such an occurrence.
  - ii. Continued operation of the asphalt plant with a defect in the cyclone and/or baghouse that may result in emissions of particulate matter in excess of limits in Conditions 2 or 3 within 30 days of such an occurrence.
  - iii. The use of distillate fuel oil with a sulfur content in excess of the limit specified in Condition 7(a) with the length of time this fuel was used and the effect on emissions of SO<sub>2</sub> within 30 days of this violation being detected.
13. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
9511 West Harrison  
Des Plaines, Illinois 60016

- 14a. This Permit will expire on the day operation ceases at this location, and all emission units are moved to a new location.
- b. The transportation and reassembly of a portable plant at a new location requires a new construction and operating permit pursuant to 35 Ill. Adm. Code 201.142 and 201.143. This permit must be obtained prior to reassembling the plant at the new location.
  - c. The Illinois EPA is to be notified, in writing, within five (5) days of any relocation of the moveable processing equipment, covered by this permit, to another permitted location.

Please note that this permit does not authorize the acceptance of waste. The appropriate permit must be obtained from the Bureau of Land before waste can be accepted. If the used oil is not "on-spec" as defined in 35 Ill. Adm. Code 739.111 or if the used oil is "off-spec" and not burned in a unit for energy recovery as allowed by 35 Ill. Adm. Code 739.161, the used oil would be considered a solid waste and not a fuel and would be subject to the manifest requirements of 35 Ill. Adm. Code 809 and the facility would be subject to the permitting requirements of 35 Ill. Adm. Code 807 as a solid waste management site. Furthermore, the used oil must provide surplus energy beyond that necessary to sustain combustion to be considered a fuel and not a waste.

Page 8

If you have any questions on this, please call Randy Solomon at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

DES:RBS:jar

cc: Illinois EPA, FOS Region 1  
Lotus Notes



Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the asphalt plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario, which results in maximum emissions from such a plant. This is producing 750,000 tons/year of asphalt. The resulting maximum emissions are well below the levels, (e.g., 100 tons/year each of CO, NO<sub>x</sub>, and SO<sub>2</sub>, and 25 tons/year of VOM) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled, and control measures are more effective than required in this permit.

<u>Item of Equipment</u>	<u>Annual Emissions (Tons/Year)</u>				
	<u>CO</u>	<u>NO<sub>x</sub></u>	<u>PM</u>	<u>SO<sub>2</sub></u>	<u>VOM</u>
Drum Mixer/Dryer	49.20	20.8	12.50	21.9	12.10
Asphalt Silos and Truck Loadout	0.26	----	0.26	----	0.19
<u>Liquid Asphalt Storage Tanks</u>	----	----	----	----	0.44
Totals	49.46	20.8	12.76	21.9	12.73

RBS:jar